

In the Claims

57. (Currently amended) A stapling unit for an endolumenal stapling system comprising:
a housing including a substantially tubular wall and a distal end cap, the housing being slidably coupleable to an endoscope for advancement therealong, the tubular wall including a window extending therethrough with an anvil formed on a first edge of the window, the housing further including a stapling apparatus mounted within the housing for movement between a stapling position in which a staple firing surface of the stapling apparatus is adjacent to the anvil and a tissue receiving position in which the staple firing surface is separated from the anvil to open the window and expose a tissue receiving cavity within an interior of the housing, the stapling firing apparatus driving a staple out of the stapling firing surface through tissue in the tissue receiving cavity; and
a tissue grasping mechanism extendible through the window for drawing tissue through the window into the tissue receiving cavity.

58. (Original) The stapling unit according to claim 57, further comprising:
a control handle which, when the housing is in an operative position within a body lumen, remains outside the body; and
a flexible sheath extending from the control handle to a proximal end of the housing.

59. (Original) The stapling unit according to claim 58, wherein the flexible sheath has a column strength sufficient to allow an operator to push the housing along an endoscope into a body lumen by pushing the flexible sheath into the body lumen.

60. (Original) The stapling unit according to claim 57, wherein the stapling apparatus is mounted within the housing for rotation about an axis of the housing between the stapling and tissue receiving positions.

61. (Original) The stapling unit according to claim 57, wherein the stapling apparatus is mounted within the housing for motion substantially parallel to a longitudinal axis of the housing.
62. (Original) The stapling unit according to claim 57, wherein the housing includes an endoscope receiving lumen extending thereinto from a proximal opening to a distal opening formed in the distal end cap.
63. (Original) The stapling unit according to claim 62, further comprising:
a control handle which, when the housing is in an operative position within a body lumen, remains outside the body; and
a flexible sheath extending from the control handle to a proximal end of the housing, wherein in an operative configuration, an endoscope is slidably received within the endoscope receiving lumen of the housing and extends through the sheath to the control handle.
64. (Original) The stapling unit according to claim 57, further comprising:
a tissue cutting mechanism mounted within the housing for cutting tissue located radially within a portion of tissue stapled by the stapling apparatus.
65. (Original) The stapling unit according to claim 64, wherein the tissue cutting mechanism includes a partially cylindrical member rotatably mounted within the housing radially within the stapling apparatus and including an angled tissue cutting surface.
66. (Original) The stapling unit according to claim 57, wherein the stapling apparatus is mounted within the housing to rotate about an axis thereof across the window.
67. (Original) The stapling unit according to claim 57, wherein the stapling apparatus is mounted within the housing to move along an axis thereof across the window.

68. (Original) A method of endolumenally resecting tissue within a body lumen, comprising the steps of:

endoscopically locating a portion of tissue to be resected within a body lumen;

sliding a housing along the endoscope to a desired position adjacent to the portion of tissue to be resected, the housing including a substantially tubular wall and a distal end cap, the tubular wall including a window extending therethrough with an anvil formed on an edge of the window, the housing further including a stapling apparatus movably mounted therewithin, the stapling apparatus opening and closing the window as it moves within the housing between a tissue receiving position and a stapling position;

moving the stapling apparatus to the tissue receiving position to open the window;

drawing the portion of tissue to be resected into the housing through the window folded over so that two full thicknesses of tissue of a wall of the body lumen are received within the window;

moving the stapling apparatus to the stapling position clamping the portion of tissue to be resected between the stapling apparatus and the anvil;

driving staples from the stapling apparatus through the two thicknesses of wall tissue to couple the two thicknesses of wall tissue to one another; and

cutting tissue radially within the stapled tissue from the stapled tissue.

69. (Original) The method according to claim 68, wherein the stapling apparatus is rotated within the housing between the tissue receiving and stapling positions.

70. (Original) The method according to claim 68, wherein the stapling apparatus is moved longitudinally within the housing between the tissue receiving and stapling positions.

71. (Original) The method according to claim 68, wherein the housing is coupled to a control handle which remains outside the body by a flexible sheath and wherein the operative housing is slid along the endoscope by pushing the flexible sheath into the body lumen.

72. (Currently amended) A system for endolumenally resecting tissue comprising:

a flexible endoscope;

a housing including a substantially tubular wall including a window extending therethrough with an anvil formed on a first edge of the window and a distal end cap, the housing being slidably coupled to the endoscope and including a stapling apparatus mounted within the housing for movement between a stapling position in which a staple firing surface of the stapling apparatus is adjacent to the anvil and a tissue receiving position in which the staple firing surface is separated from the anvil to open the window and expose a tissue receiving cavity within the housing, the stapling firing apparatus driving a staple out of the stapling firing surface through tissue in the tissue receiving cavity; and

a tissue grasping mechanism extendible through the window for drawing tissue through the window into the tissue receiving cavity.